

Unit 3/ Chapter 4 Practice – Integumentary System

1. Using Figure 4-2, identify the following structures and layers:

Adipose tissue
Epidermis
Dermis
Subcutaneous tissue
Hair shaft
Stratum corneum
Stratum basale
Papilla of hair bulb
Sweat gland
Arrector pilli muscle
Sebaceous gland
Nerve fiber

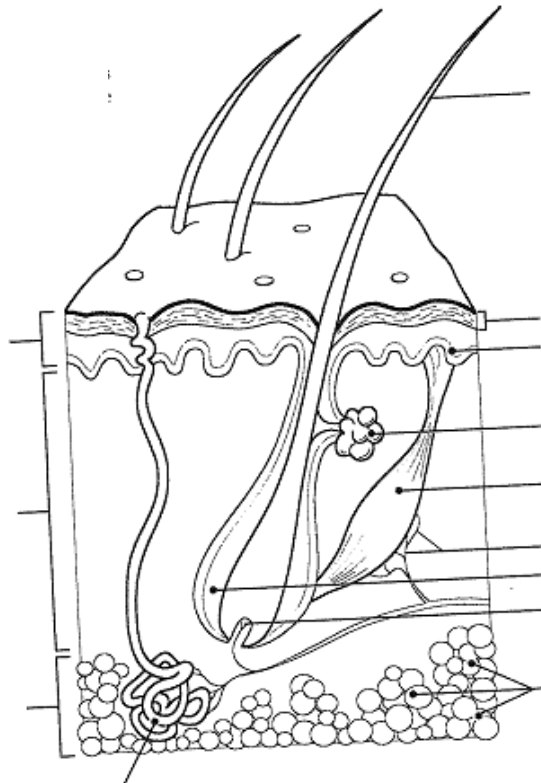


Figure 4-2

2. Fill in the type of skin cancer that matches each of the following descriptions.

- | | |
|-------|--|
| _____ | Epithelial cells, not in contact with the basement membrane, develop lesions; metastasize |
| _____ | Cells of the lowest level of the epidermis invade the dermis and hypodermis; exposed areas developed ulcers; slow to metastasize |
| _____ | Rare but often deadly cancer of pigment-producing cells |

3. A man got his finger caught in a machine at the factory. The damage was less serious than expected, but nonetheless, the entire nail was torn from his right index finger. The parts lost were the body, root, bed, matrix, and cuticle of the nail. First define each of these parts. Then tell if this nail is likely to grow back.

4. Match the words below with the correct statements.

A. Arrector pilli

C. Hair

E. Sebaceous

G. Sweat gland (eccrine)

B. Cutaneous receptor

D. Hair follicle (s)

F. Sweat gland (apocrine)

- _____ 1. A blackhead is an accumulation of oil material produced by _____
- _____ 2. Tiny muscles attached to hair follicles that pull the hair upright during fright or cold is called _____
- _____ 3. The most numerous variety of perspiration gland is the _____
- _____ 4. A sheath formed of both epithelial and connective tissue is _____
- _____ 5. A less numerous variety of perspiration gland is the _____. Its secretion (often milky in appearance) contains proteins and other substances that favor bacterial growth
- _____ 6. _____ is found everywhere on the body except the palms of the hands, soles of the feet, and lips, and it primarily consists of dead keratinized cells.
- _____ 7. _____ are specialized nerve endings that respond to temperature and touch, for example
- _____ 8. _____ become more active at puberty.
- _____ 9. Part of the heat-liberating apparatus of the body is the _____
- _____ 10. Secretin contains bacteria-killing substances.

5. This section reviews the severity of burns. Match the burn type with the descriptions. Answers may be used more than once.

A. First-degree burn

B. Second-degree burn

C. Third-degree burn

- 1 _____ Full-thickness burn; epidermal and dermal layers destroyed; skin is blanched
- 2 _____ Blisters forms
- 3 _____ Epidermal damage, redness, and some pain (usually brief)
- 4 _____ Epidermal and some dermal damage; pain; regeneration is possible
- 5 _____ Regeneration impossible; requires grafting
- 6 _____ Pain is absent because nerve endings in the area are destroyed

6. For each true statement, write **T**. For each false statement, correct the underlined word(s) and write your answer on the space provided.

- _____ 1. A saltwater solution is secreted by the sebaceous glands.
- _____ 2. The most abundant protein in dead epidermal structures, such as hair and nails, is melanin.
- _____ 3. Sebum is an oil mixture of lipids, cholesterol, and cell fragments.
- _____ 4. The externally observable part of a hair is called the root.
- _____ 5. The epidermis provides mechanical strength to the skin.

7. Using the key choices, choose all responses that apply to the following descriptions.

A. Stratum basale
B. Stratum corneum
C. Stratum granulosum

D. Stratum lucidum
E. Stratum spinosum
F. Papillary layer

G. Reticular layer
H. Epidermis (as a whole)
I. Dermis (as a whole)

1.	Layer containing sacs filled with fatty material or keratin subunits
2.	Dead cells
3.	The more superficial dermis layer
4.	Avascular region
5.	Major skin area where derivatives (nail and hair) reside
6.	Epidermal region exhibiting the most mitosis
7.	Most superficial epidermal layer
8.	Has abundant elastic and collagenic fibers
9.	Region where melanocytes are most likely to be found
10.	Accounts for most of the epidermis

8. Circle the term that **DOES NOT** belong in each of the following groupings.

- | | | | |
|--------------------|----------------|-------------------|---------------------|
| a. Reticular layer | Keratin | Dermal papillae | Fingerprints |
| b. Melanin | Freckle | Wart | Malignant carcinoma |
| c. Stratum corneum | Nail Matrix | Hair bulb | Stratum basale |
| d. Scent glands | Eccrine glands | Apocrine glands | Mammary Gland |
| e. Terminal hair | Vellus hair | Dark, coarse hair | Eyebrow hair |
| f. Sebaceous gland | Hair | Arrector pili | Epidermis |

9. Both newborn and aged individuals have very little subcutaneous tissue. How does this affect their sensitivity to the cold? Explain your answer.